

Samsung Electronics America

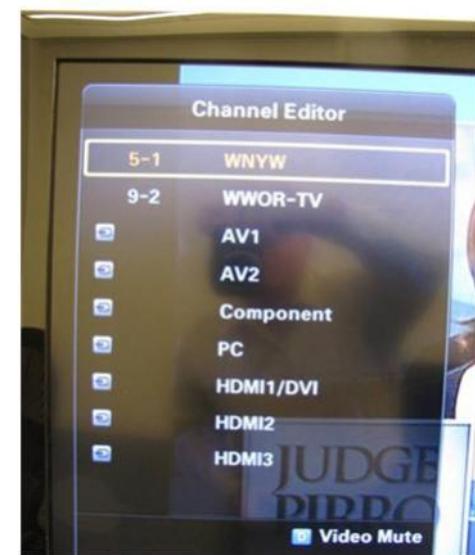
Samsung Tech Talk

*Your source for service information***Inside this issue:****Setting Up C Model Hotel TVs****1***Manager—Product Support***Another Avenue
for Tech Support****2**

Whenever the “SI Vendor” parameter in the interactive menu is changed in a C Model Hotel TV, the TV needs a hard reboot to load the new information correctly. To do this properly, follow these steps:

**Samsung Product
Support TV: Videos
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1. After you have finished changing the settings in the interactive menu, power down the TV using the remote control.
2. After the TV turns off, unplug the TV from the AC receptacle.
3. Leave the set unplugged until the red LED on the front bezel is completely extinguished. This should take about 10 to 20 seconds.
4. Plug the TV back in, turn it on, and then test for proper operation using the vendor’s remote control.

**Resolving the
Most Common
Home Theater
NDF Issue****6****Hot Tech Tips****8****TV Troubleshooting
Test Patterns
Corrected****12****Plasma TV Repair
Made Simple, Part
2****13****Samsung’s
Thanksgiving Din-
ner****16****Remapping Channels**

To remap channels using Channel Editor on the C model Hotel TVs, follow these steps:

1. Turn the “Dynamic SI” feature “OFF”. “Dynamic SI” monitors for the addition of sub channels and automatically adds them to the list. To remap, this feature must be off.
2. In the “Channel Editor” menu, select the channel or source that you want changed, and then press the “Tools” button on the Samsung remote control.
3. Select “Edit Channel Number” and then scroll through the available channels to the one desired and press “Enter”.

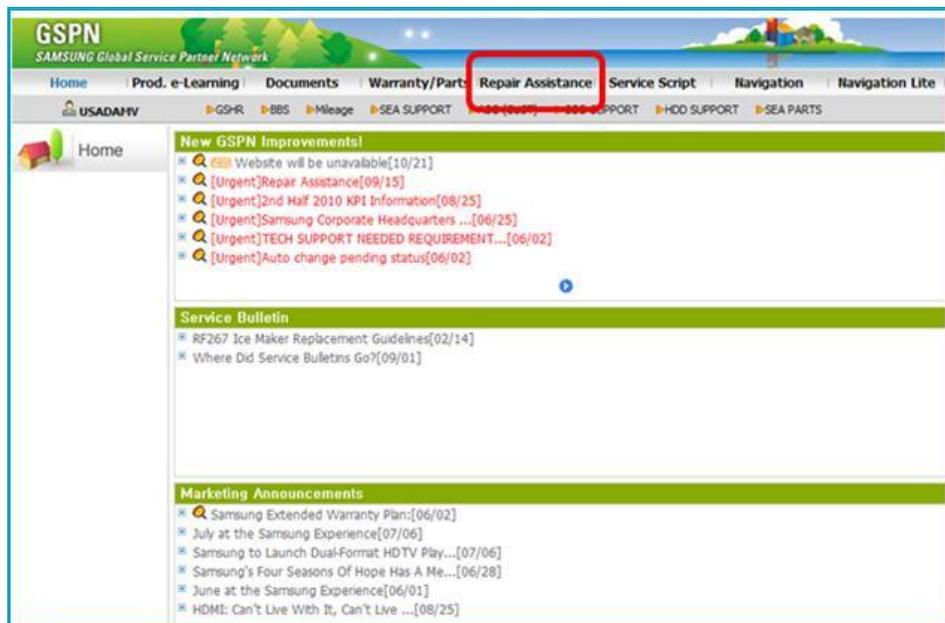
Trick: To change to the root channel (i.e. from 5-1 to 5), you must select another channel number and save, and then repeat and select the final channel number.

ANOTHER AVENUE FOR TECH SUPPORT

Adam Vogel

Product Support

We've all been there a time or two, stuck with the TV that we simply don't know how to fix. We've exhausted our efforts looking through the technical tips and service bulletins, but the TV's problem simply isn't there. If you are facing this kind of predicament, we now have an answer: Tech Support's new and ever growing "Repair Assistance" portal on GSPN.



Under the new Repair Assistance tab, you will find a "model code" search box as well as 5 "product category" drop down boxes. Simply enter the model number in question, or use the drop down boxes to make your model selection.

A screenshot of a repair assistance form. It has two main sections: 'Product Category' and 'Symptom Code'. The 'Product Category' section contains five dropdown menus: 'TV/Video', 'TVs', 'LCD TV', 'LN-T4681F', and 'LNT4681FX/XAA'. The 'Symptom Code' section contains three dropdown menus: 'Select a Symptom Code 1', 'Select a Symptom Code 2', and 'Select a Symptom Code 3'.

Once the model number is populated in the 5th drop down box, you are then ready to fill out the "Symptom Code" information. For the majority of your repair situations, you will choose option 04-Quality/Trouble in the first drop down box.

ANOTHER AVENUE FOR TECH SUPPORT

continued

Product Category
TV/Video
TVs
LCD TV
LN-T4681F
LNT4681FX/XAA
Symptom Code
04 - Quality/Trouble
Select a Symptom Code 2
Select a Symptom Code 3

From there, you choose selections from two more drop down filters to pinpoint the problem you are facing.

Symptom Code 2

Product Category
TV/Video
TVs
Select a Symptom Code 2
01 - Power
02 - Audio
03 - Video&Image
04 - External appearance
05 - Noise/Smell
06 - Channel
07 - Remote control
09 - language/caption function/picture in picture
10 - Internet/Karaoke/other defect
11 - CableCard
12 - Firmware
Select a Symptom Code 2
Select a Symptom Code 3

Symptom Code 3

Product Category
TV/Video
TVs
LCD TV
Select a Symptom Code 3
01 - Unable to turn on
02 - Unable to turn on intermittently
03 - Timer is on but TV can not be turned on
04 - Unable to turn off
05 - TV turned off after a cracking noise
06 - Automatically turned on
07 - Automatically turned on, turned off repeatedly
08 - unavailable power saving function
09 - Static electricity
10 - Three led light blinking
11 - One led light blinking
Select a Symptom Code 3



Once you have all drop down filters correctly filled out, hit the “Search” button at the bottom of the screen. After a few seconds of loading, a repair scenario should appear, instructing you how to begin repairing the unit.

Repair Scenario						
No Detail Description						
1 Let the unit warm up for approx 20-30 minutes						
2 Check the panel supply voltages						
3 Try adjusting VS and VA voltages slightly lower.						
4 Adjust till the picture gets better.						
Parts List in Right Part						
Version Parts # Parts Category Description Remark Available Note						
No data found.						
Attachment						
No File Name						
No data found.						
Firmware Link						
Firmware						

Please keep in mind, this is a new feature and not all models have been populated with information.

SAMSUNG PRODUCT SUPPORT TV—VIDEOS FOR YOU

Scott Whitman and Adam Vogel

Manager—Product Support, Product Support Specialist

Want to know how to disassemble or troubleshoot the UN9000 LED?

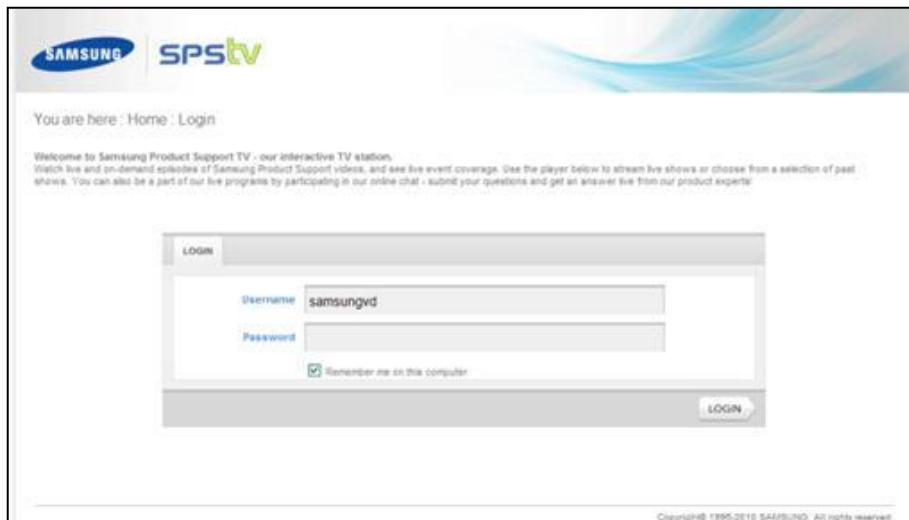
Maybe you don't know how because you just started as a Samsung servicer. Or maybe you just hired a new technician and you want the tech to get up to speed fast. In either case, Product Support has started a video how-to library covering 2010 product and has uploaded videos to SPSTV just for you. We started with the UN9000 due to its unusual configuration. Shortly, we will be adding the PDP models. And of course, there are the 2010 TV product basic videos already uploaded that you can view at your convenience.

To Log In

To log in, go to www.samsungsupport.com/spsntv/. On the login screen enter:

Username: samsungvd

Password: samsung83



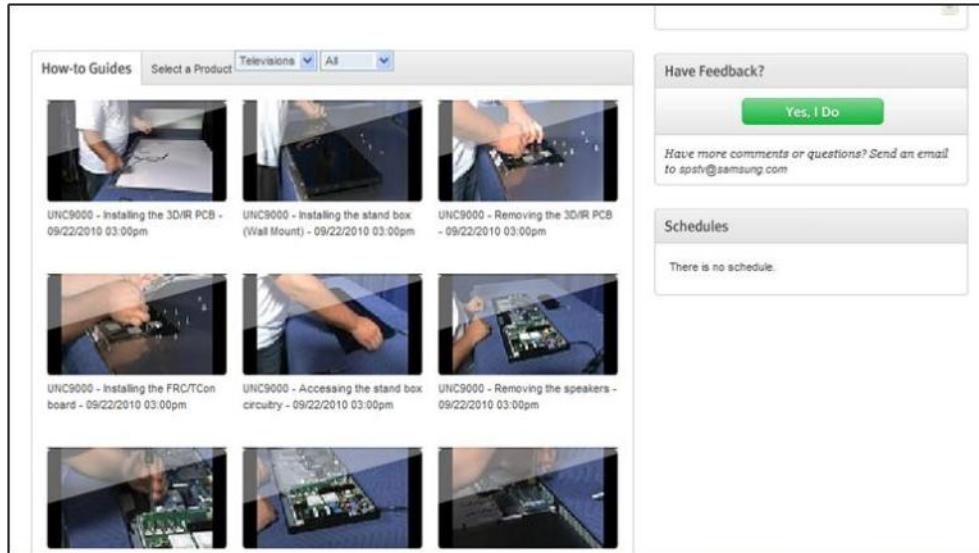
After you have logged in, this is what the screen will look like:



SAMSUNG PRODUCT SUPPORT TV—VIDEOS FOR YOU

continued

If you scroll down, you will see a list of videos that we have recently posted:



We created this library of service and repair videos for you. Log in and view them. They are chock full of information you can use right now. Check out the videos today.

Also, if there is a Samsung product or a repair issue you would like to see a video on, send us an e-mail at avogel@sea.samsung.com or productsupport@sea.samsung.com.

Note: SPSTV is fully compatible with Internet Explorer only. It is not fully compatible with Firefox. If you use Firefox, some portions of SPSTV will not work correctly.

Customer Access to SPSTV

Your customers can also access SPSTV for how-to video guides, weekly live-shows, and interactive chat sessions, all oriented to customer needs and concerns. In fact, SPSTV offers over 150 how-to videos covering topics from setting up a Samsung TV to syncing a Samsung mobile phone with a laptop. New videos are added weekly.

Customers can access SPSTV at www.samsung.com/spstv.

Important: Do not give customers the **samsungsupport** address, Username, or Password. These are for technicians only.



RESOLVING THE MOST COMMON HOME THEATER NDF ISSUE

Michael Vigliotti

Product Support

The most common Home Theater, No Defect Found (NDF) issue is when a customer complains that a Home Theater's rear speakers (usually wireless) are not working. Most of the time, you can resolve this issue by following these steps:

- Complete a Test Tone.
- Check the light on the back of the wireless speaker module.
- Check the connections of the speakers.
- See if the TX card is inserted.
- If everything is OK, educate the customer by explaining how wireless rear speakers work.

Run a Test Tone – Run a test tone to find out if the customer's speakers are connected correctly. If the test tone works and you hear white noise out of each speaker, then you know the speakers are connected correctly and you can skip directly to "educating the customer". If the test tone fails, proceed to the next step.

Check the Light – If the rear speakers have no audio during the test tone, check the light on the back of the rear wireless module. If the light is solid BLUE, then you know that the connection between the front receiver and the back speakers is good and you can proceed to the next step. If the light is RED or BLUE AND BLINKING, skip the next step and check the TX card.

Check Speaker Connections – Only check the connections if the light on the TX Card is blue and you still get no sound out of the rear speakers when you run a test tone. Some customers think that the wireless speaker system does not need any wires. This is not true. You need to connect a wire from each rear wireless speaker to the wireless module. Without this connection, the customer will not hear any sound. If the wireless speakers are not connected to the wireless module, connect them, then skip the "Check the TX card" step and educate the customer about connecting each wireless speaker to the wireless module.

Check the TX card – The TX card might not be inserted into the back of the HTS main unit. This has to be done on all models, except for the HT-C75xx which has it built in. If the TX card is inserted and the connections are good, then the only thing you can do is try to re-sync the main unit to the wireless module. To re-sync, turn off the main unit, and then use a pin to press the ID set button on the wireless module. While the blue light is blinking, press **Mute > 0 > 1 > 3 > 5 > Power** on the remote control, and then wait for the main unit to turn on. If you do not see a solid blue light, repeat this step 2 to 3 times. In the worst case scenario, you will need to service the unit.

Educate the Customer – This is all you have to do if the test tone completed successfully. Some customers just do not understand how surround sound works. If you need help explaining surround to customers, just follow these guidelines:

First, find out if the customer is listening to a 2.1, 5.1, or 7.1 audio track. With 2.1, you can set the audio to play 2 ways: as 2.1 sound from the Front Left, Front Right and Subwoofer, or as simulated surround which uses all the speakers. If the customer complains that the rear speakers are not working and he is listening to 2.1 audio, explain that he can press the PLII Mode button and set the HTS to Prologic or Matrix and get simulated surround sound.

With 5.1/7.1 audio, the HTS cannot simulate surround. It can only reproduce what is on the sound track. If the movie has a lot of background noise, you will hear that noise in the rear speakers. If there is little to no background noise, then only the front speakers will output audio. Ask the customer to fast forward to a noisy scene such as a crowded room or an

RESOLVING THE MOST COMMON HOME THEATER NDF ISSUE

continued

explosion. Then, have the customer touch the rear speakers and listen closely. If the customer feels vibration or hears any sound, then this should prove that their Home Theater is working properly.

The easiest way to explain to a customer how surround sound works is to ask the customer to imagine she is the camera filming the movie. Any sound that happens behind the camera will play through the rear speakers and any sound that happens in front of the camera will play through the front speakers.



PLEASE SEND US YOUR COMMENTS!

Something you'd like to see in the Samsung Tech Talk Newsletter? If there's a topic/issue we haven't covered that you'd like us to write about, **LET US KNOW!**

Please send your comments to:
training@sea.samsung.com

HOT TECH TIPS

Jorge Tavora

Product Support Manager/Tech Support Hotline/Triage

Model: PN50B450B1DXZA

Symptom: There are vertical lines on the screen



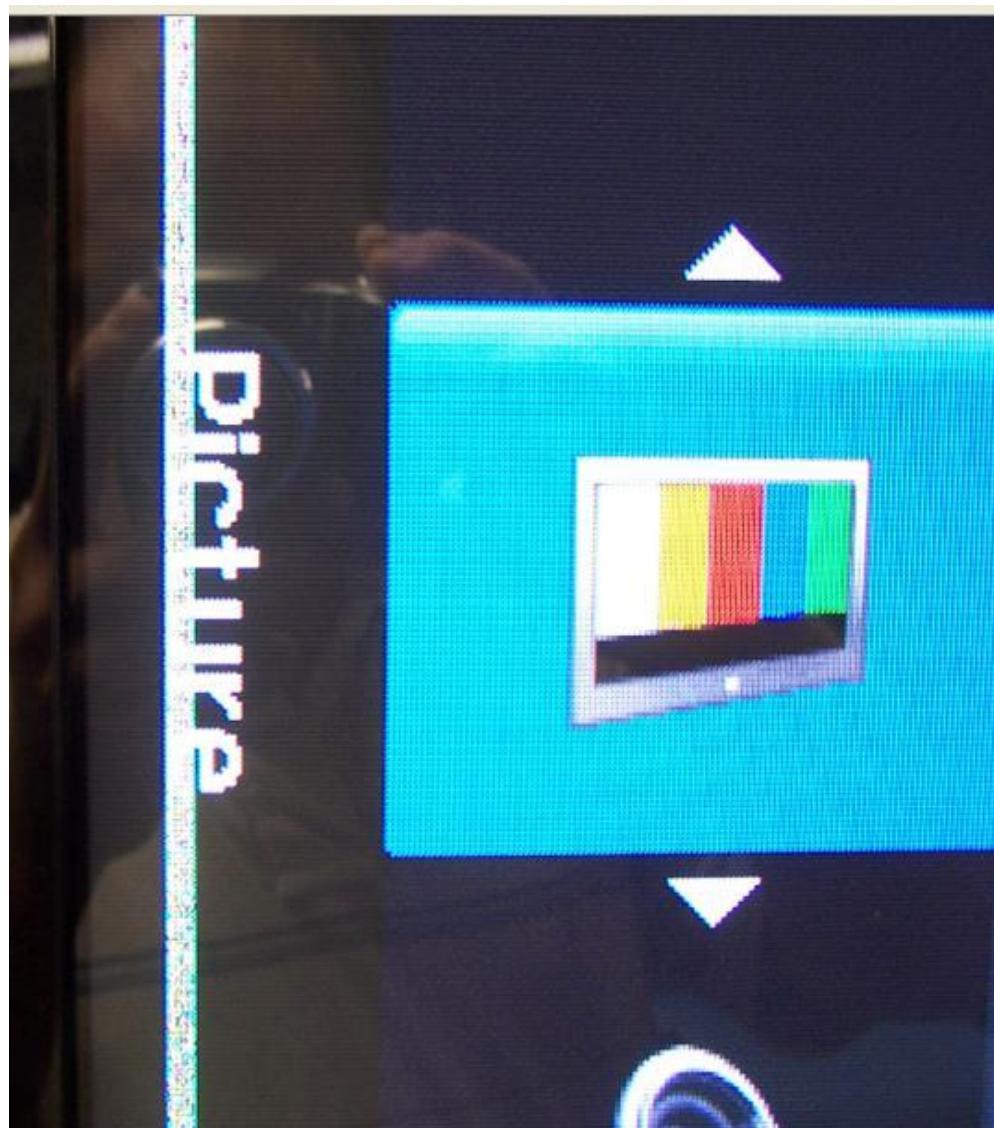
Cure: Call the customer before running the service call and ask the customer to bring up the OSD menu. If the symptom affects the menu, replace the panel.

HOT TECH TIPS

Continued

Model: PN50C450B1DXZA

Symptom: Vertical white bar on the left side of the screen



Cure: Call the customer before running the service call and ask the customer to bring up the OSD menu. If the symptom affects the menu, replace the panel.

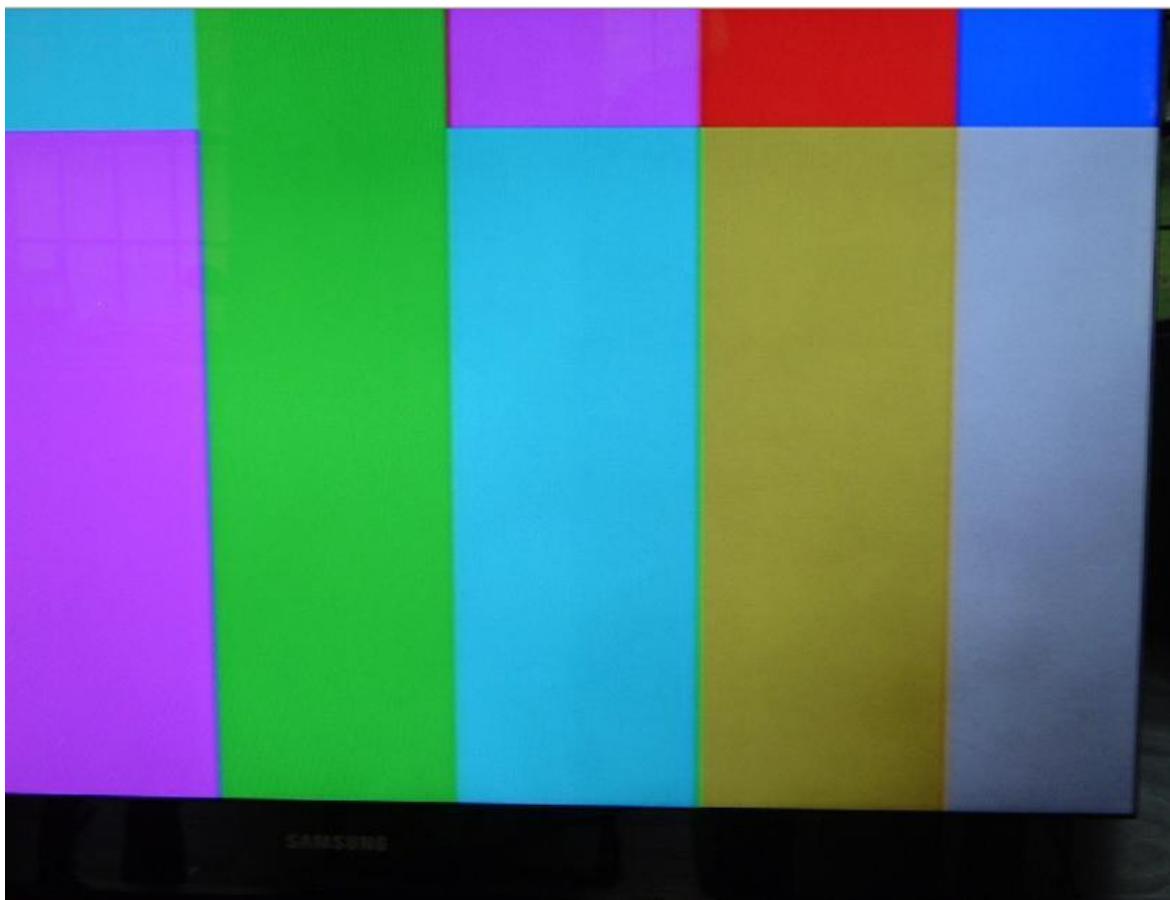
* While at the customer's home, also reseat all the cables.

HOT TECH TIPS

Continued

Model: UN46B6000VFXZA

Symptom: Lower right hand side has a dark shadow.



Cure: Call the customer before running the service call and ask the customer to bring up the OSD menu and run the picture test function. If the symptom appears during the picture test, replace the panel.

Note: The illustration above shows the internal test pattern with the lower right hand side showing a dark shadow.

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HOT TECH TIPS

Continued

Model: UN46B6000VFXZA

Symptom: Half the screen has vertical colored lines



Cure: In this model, the T-CON has two output ICs that control the panel. Replace the T-CON. Before replacing the T-CON, reseat the LVDS cable.

Model: UN55C9000ZFXZA

Symptom: There is red smear in sections of the screen.



Cure: The **LVDS cable** can cause this if it's not seated correctly. Check the position of the LVDS cable and the contacts. If seated correctly, replace the LVDS cable.

Consult the Samsung Service Website (GSPN) at <http://service.samsungportal.com> for the Service Manual and other information on these products.

TV TROUBLESHOOTING TEST PATTERNS CORRECTED

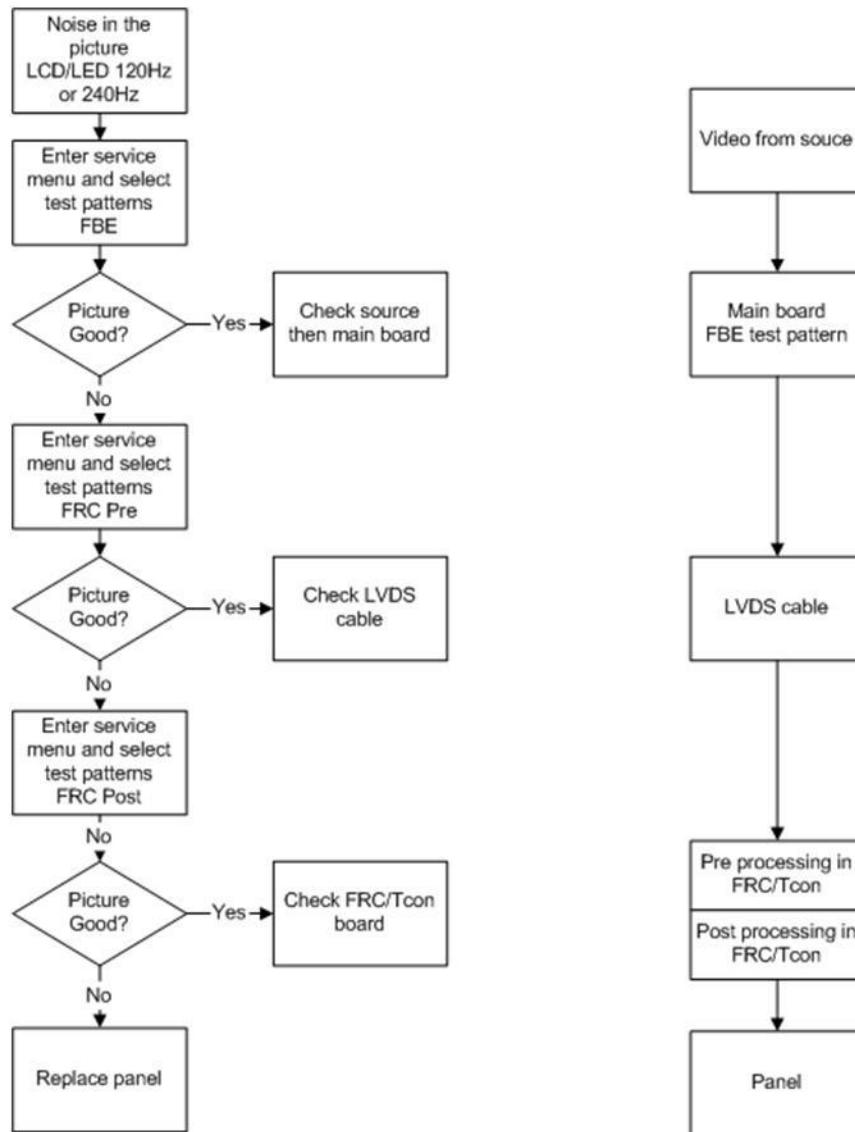
Scott Whitman

Manager—Product Support

During the past year, we have found that various 2010 TV models do not have the correct test patterns listed in their service menus. To ensure you have the correct test pattern for a given TV, download the TV's latest firmware if the TV does not have the latest firmware installed. The error is rectified in all the latest firmware versions for all models.

What does this mean to you in the field? For PDP and 120hz/240hz products, this means simplified troubleshooting. If you are not already aware of the test patterns, now is the time to get acquainted with them. They are a valuable tool for isolating board failures between the main board, LVDS cable, T-con/FRC, and panel.

See the flowchart below for a basic overview of the video processing flow and how it relates to the test patterns. Note that the flowchart is accurate for PDP TVs except where it mentions FRC test patterns. For PDP TVs, use Logic test patterns instead.



PLASMA TV REPAIR MADE SIMPLE, PART 2

Charles Russo

Trainer—RTSC

In the first installment of this series last month, we began examining the basic operation of and troubleshooting for Samsung Plasma TVs.

In particular, we examined the VITAL SIGNS—the Vs, Va, Vsc, and Ve voltages—and their importance.

The Vital Sign voltages can be taken in less than 5 minutes and not only greatly assist in the immediate repair diagnosis but also prevent future failures. (Redo!)

These voltages are specifically set for a given panel and are so important that their values are printed on a sticker inside the back of each panel. See the example label below.

NTSC		NTSC/PAL	
Va	Vsc	Vs	Ve
55	-190	212	100
Rev. 2.0			

Even though the 2010 models have additional failsafe circuitry that shuts down the start up sequence in approximately 3 seconds if an over voltage or under voltage/high current condition occurs (short), you still have plenty of time to check the voltages. Simply hook up your volt meter before you turn on the Plasma TV and be ready to take your readings.

Let's continue to look at some of these voltages and what they do.

Vs: Sustain Voltage

Discussed last issue, the Vs Sustain Voltage is generated by the SMPS (Switching Mode Power Supply) and operates at approx 200 volts (in the example label above, 212V). It is used by both the Y-Board and X-Board assemblies to help produce the sustain drive signal to the plasma cells of the panel. Without the Vs voltage, the drive signal cannot exist and the cells cannot light, leading to a dead looking panel. If the Vs is missing, causing an under voltage/high current condition (typically shorted), 2010 models will shut down within 3 seconds.

If this voltage is misadjusted too high or too low, specks or dots appear causing a cell misfiring condition commonly known as a “Diffusion” condition. Setting this voltage properly can eliminate this condition.

Va: Address Voltage

Also discussed last issue, the Va Address Voltage is generated from the SMPS and supplies approximately 60 Volts (54V in the example label) to the Logic Buffer Boards, commonly known as the Address Boards, located in 2010 models on the bottom of the panel. If this voltage is missing, low, or high, the Address Boards will not operate properly. If this voltage is incorrect, cell misfiring and/or noise such as vertical bars or vertical segments may appear, since addressing occurs vertically up the screen.

Now let's look at Vsc and Ve.

PLASMA TV REPAIR MADE SIMPLE, PART 2

continued

Vsc: Scan Voltage

The Vsc Scan Voltage is generated at the Y Board Assembly and is produced after the Y Board receives the Vs Supply Voltage from the SMPS (Switching Mode Power Supply Board). It is approximately -190 Volts (-190V in the example label) and is combined with the Scan Signal from the Logic Board by the FETs on the Y Board.

The Scan driving signal is then fed to the Scan ICs located on the Y Buffer Board(s) of the panel and is responsible for scanning left to right, across the screen, and top to bottom, in a Progressive Scan, that is, one horizontal line at a time.

Repair Scenario 1

Symptom: The panel will not turn on. The TV shuts down after a 3 second interval.

Troubleshooting: Measuring the "Vital Signs" shows Vs is OK, but there is no Vsc Voltage or a rise in voltage.

Repair: Replace the defective Y Board. Also replace the Y-Buffer Board(s) since the Scan ICs may also have been affected.

Note: A visual inspection of the Scan ICs on the Y Buffer Boards (Scan Board(s)) is important and necessary. Physical damage to any of the Scan ICs can be a quick confirmation of failure. Failures, however, can occur without any physical problems being observed. If any of the ICs fail, replace all Y Buffer Boards (usually 1 or 2 assemblies) and the Y-Board.

Repair Scenario 2

Symptom: The panel will not turn on. The TV shuts down after a 3 second interval.

Troubleshooting: Measuring the "Vital Signs" reveals no Vsc and no Vs.

Repair: Since Vsc relies on the Vs feed from the Power Supply, first troubleshoot the no Vs condition. To begin, test Vs for a short to the chassis ground. The short can come from the Y-Board or X-Board. Remove the Power Supply Vs feed to determine which board has the short. Replace the defective Y or X Board. If no short exists, test the power supply with the connectors removed.

Note: Also verify the Logic Board is sending an active high signal to the SMPS to turn on Vs.

Ve: Erase Voltage

The Ve Erase Voltage is generated at the X Board and is derived from the Vs voltage from the Power Supply. The Ve voltage, approximately 100 volts, (95V on the example label) is primarily used to assist the Y in erasing previously activated cells and neutralizing the erasure before the next scan.

Repair Scenario 1

Symptom: The TV turns on, but the video has continuous image ghosting or retention from previous frames.

Troubleshooting: Measuring the "Vital Signs" reveals no Ve.

Repair: Replace the defective X-Board.

PLASMA TV REPAIR MADE SIMPLE, PART 2

continued

Repair Scenario 2

Symptom: The TV turns on, but the picture is very dark.

Troubleshooting: All “Vital Signs” measure OK.

Repair: Place the TV in service mode and activate the Logic Test Patterns. If the video is still dark, replace the defective X Drive. If the video restores to normal when you use the Logic Test Patterns, replace the defective Main Board.

This concludes “Checking the Vital Signs”. Look for Plasma TV Repair Made Simple, Part 3 in the next issue of Tech Talk!



Above: The Samsung PN58C6500TF 58 inch Plasma TV

SAMSUNG'S THANKSGIVING DINNER

Directions: Unscramble the words below and use the letters circled to answer the final question below. The solution is on the following page.

1.KTRUEY

<input type="text"/>					
----------------------	----------------------	----------------------	----------------------	----------------------	----------------------



2.GAVRY

<input type="text"/>				
----------------------	----------------------	----------------------	----------------------	----------------------

3.KNPMUPI EPI

<input type="text"/>						
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<input type="text"/>	<input type="text"/>	<input type="text"/>
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4.ERRNRCIAESB

<input type="text"/>											
----------------------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------

5.NORC

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
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Take the circled letters from above and unscramble them to solve the final question.

Where to go for 24/7 training support?

<input type="text"/>	<input type="text"/>	S	<input type="text"/>	<input type="text"/>
----------------------	----------------------	----------	----------------------	----------------------

<input type="text"/>	<input type="text"/>	L	<input type="text"/>	<input type="text"/>
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SAMSUNG'S THANKSGIVING DINNER—SOLUTION

1.KTRUEY

T	U	R	K	E	Y
---	---	---	---	---	---

2.GAVRY

G	R	A	V	Y
---	---	---	---	---

3.KNPMUPI EPI

P	U	M	P	K	I	N	P	I	E
---	---	---	---	---	---	---	---	---	---

4.ERRNRICIAESB

C	R	A	N	B	E	R	R	I	E	S
---	---	---	---	---	---	---	---	---	---	---

5.NORC

C	O	R	N
---	---	---	---

Take the circled letters from above and unscramble them to solve the final question.

Where to go for 24/7 training support?

S	P	S	T	V
---	---	---	---	---

O	N	L	I	N	E
---	---	---	---	---	---

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